MRC Out-of-Home Measurement Standards

Phase 1 – Exclusive of Audience

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Sponsoring Association:
Media Rating Council (MRC)

Media Rating Council, Inc.

Out-Of-Home Measurement Standards
Phase 1 (Exclusive of Audience)

1. Overview

This document represents the first phase to publish Standards for the measurement of Out-of-Home (OOH) Media Audiences intended to foster a common core of metrics that can be applied across the full expanse of out-of-home media, as well as provide for comparability to other measured media. This first phase release addresses Standards applicable to several of the underlying components necessary to establish a qualified OOH measurement metric, and purposely omits the details as to what is necessary to qualify a reported statistic as audience. The requirements to establish an audience metric will be documented through a second phase release of this document. These Standards are designed to be applicable to visual media formats including Display and Video whether delivered via digital or analog means. The document was prepared for the use and benefit of the media Industry, especially those constituents that analyze measurement statistics, whether for content or advertising in OOH Media, and those that monetize media metrics associated with advertising (whether buyer or seller) in the OOH environment.

The term audience is referenced throughout this document since that is the eventual goal for when the final phase two version is released. The term audience is defined as the number of individuals estimated to be within the Display Exposure Zone that have met the criteria for a Likelihood-to-See Impression, including other criteria to be determined as part of Phase 2 of the OOH Standards. Additionally, many of the metrics covered in this phase one release are fundamental to establishing audience for OOH, and the requirements and defined criteria associated with each of these will apply when the final audience measurement version of this document is released. Note, the term "individual" is used throughout this document serving as a counting mechanism and its mention should not be inferred to represent audience. Multiple metrics are reported based on individuals including traffic counts, impressions, and audience, though each is defined separately based on its own set of unique qualifiers. The term "individual" alone does imply any form of characteristic, unless these data are attributed by the measurer.

It should be noted that the "best" methods and approaches to measure the audience of any media are driven by the nature of the medium, its environment, its mode(s) of delivery and how its audience consumes and interacts with the medium. This is especially true of OOH due to the diverse nature of the locations and delivery methods, the environmental factors associated with the varying locations and delivery vehicles, and the available measurement techniques for these unique environments.

These Standards are intended to lead toward improved measurement practices in the United States for OOH media, encouraging adoption for countries and entities outside the U.S., and are expected to evolve over time through a regimented revision process in order to keep pace with industry change, and as further advanced and technological solutions and other research methods become more feasible. The revision process will include consideration of other guidance issued around the globe, with the intent to align or adopt practices to the extent possible, bearing in mind that differences in local mores, regulations, restrictions, and common practices may result in certain limits. Changes in the size and diversity of the marketplace should also be considered and we will continue to monitor measurement developments, some of which may already be employed elsewhere that should be considered for use once deemed feasible. Our intention is to work to continually improve the quality and state of research for OOH media as the medium continues to grow and advance, and we expect

media owners will adopt and accept the need for continued advancement in research methods and quality.

The MRC also promotes full transparency and throughout this document specifies that measurement organizations must be transparent with respect to all aspects of their operations so that users have a complete understanding of the methods used to collect, edit, adjust, process, and report the data. The level of transparency we promote is not intended to force disclosure of any protected intellectual property or highly proprietary techniques, though these aspects should be subject to confidential audit conducted by an independent body.

This document also encourages validation of the underlying information that forms the basis for counting, as well as the methods and techniques employed by measurers to edit and process raw data to derive impression metrics. Validation shall extend to external data sources, to the extent possible, and shall be performed periodically both internally and by external parties. For syndicated measurement services, empirical research that validates methodological techniques is generally required and should be available for customer review in a summary fashion.

This document is principally applicable to OOH media measurement companies and media suppliers who deliver OOH content and/or related advertising, and is intended as Standards for accepted measurement practice. Other users of OOH data including marketers, advertising planners and buyers, and sales executives can use this document to assist in determining how accurately measurement parameters are executed, or rely on the executive summary that will be produced with the final release and will provide a general overview and core principles on the measurement of OOH.

This document was prepared considering material published or supplied by various industry associations, including DSF, DPAA, ESOMAR, Geopath, IAB and OAAA and we would like to recognize the efforts of these organizations in producing the earlier work. Information excerpted from materials supplied by one or more of these organizations is denoted with “+”, and permission was granted.

1.1 Goal of Standards

This document serves to establish a set of methods and standard practices for entities that calculate OOH Measurement and associated metrics, in addition to providing guidance and benchmarking for voluntary inspection and auditing of OOH measurement products and associated practices and disclosures by a third-party. The OOH Standards are intended to:

- Establish and document sound and minimally acceptable measurement practices
- Improve OOH measurement practices and disclosures used by practitioners
- Educate users of OOH Measurement data across the various industry sectors
- Providing a consistent set of definitions for key elements of OOH Measurement that are applicable to all OOH media types
- Recommending minimum disclosures for measurement data users
- Clearly outlining recommended research, operating practices and quality standards, inclusive of best practices
- Foster innovation and improvements to enhance measurement research quality
- Encourage cross-media and geographical comparability

1.2 Development Process

The Standards contained in this document emanate from a project facilitated by the Media Rating Council (MRC), with the participation of a large group of OOH vendors and related Industry associations including DPAA, Geopath, and OAAA, plus measurement organizations and other interested entities.

These Standards were exposed to major buyer-side trade organizations (e.g., 4As) and their constituents, and thereafter provided to the public through a formal period of public comment prior to formal adoption.

MRC will re-assess these Standards periodically to ensure they remain applicable over time.

1.3 Development Team

The development team consisted of a large group of individuals representing the following organizations and entities.

- Media Rating Council (MRC)
- Advertising Agencies
- Out-of-Home Trade Associations
- Digital Out-of-Home Trade Associations
- Digital Trade Associations
- Industry Consultants
- Media Content Distributors
- Media Measurement Services
- Various International Entities

1.4 Standards Scope and Applicability

These Standards are intended to cover the methods applied to measure the prevalent forms of OOH media including the different forms of content and ad types distributed through either analog or digital delivery methods. Depending on the nature of the delivery method, content as well as ads may be static in nature, changing only after some extended period of time, or rotate mechanically or digitally at periodic intervals. It is important to know the method by which ads or content are displayed, and the times at which they appear, so that proper accounting can occur when measuring and reporting on content, ad content, or individual ad units.

Digital content types, including ad inventory, covered by this Standard are broadly characterized based on how ads or content are delivered and the devices they are delivered to as: static linear (fixed ad or content position delivered to a fixed device regardless of location or other conditions), rotating linear (fixed ad or content position delivered to a moveable device regardless of location or other conditions), dynamic (content or ad delivery that varies based on location or other conditions) or interactive (content or ads delivered to a device whereby the ads, content and device can be interacted with), and encompass static display, video or animated images that may or may not include sound. OOH elements (i.e., Content or Ads) may be further generalized by the following parameters.

- Is the content on a unit that is rotating between multiple spots? (Y/N)
- Is the content/Ad delivered via electronic means “digital”? (Y/N)

- Is the content/Ad a full motion video? (Y/N)
- Is the content/Ad displayed with partial motion or animation? (Y/N)
- Is the Display Audience capable of interacting with the content/Ad? (Y/N)
- Does the content/Ad include an audio component? (Y/N)
- Do Ads rotate among multiple display units? (Y/N)
- Do Ads Share the Display with other content? (Content) (Y/N)

Table 1 generalizes the ad types available through the different forms of delivery.

Form	**Ad Types**			
	Static (Linear)	*Rotating (Linear)*	*Dynamic Insertion*	*Rich Media Interactive*
Display (Audio optional)				
Analog	Y	$Y_{(Tri\text{-}vision)}$	N	N
Digital	Y	$Y_{(Network)}$	Y	Y
Video (Audio optional)				
DOOH Including Digital Place-Based	Y	Y	Y	Y
Audio Only				
	Presently excluded from the Standards.			

Tri-vision – Advertising display, typically the size of a traditional billboard, that utilizes moving prism panels to rotate its surface. Three different ad messages in a predetermined order and for set amounts of time would be shown on the billboard.

OOH media are distributed through varying means that can be broadly categorized into four major groupings (Billboards, Street Furniture, Transit, & Place-Based), and while each of these categories offers its own set of unique characteristics and qualities in terms of delivering content and advertising to consumers, the same OOH Measurement requirements shall be applied, subject to the extent to which a requirement is applicable. Table 2 summarizes the major OOH categories along with a description of each. OOH industry associations offer more details on the varying types of units or content delivery mechanisms contained within each of the four broad categories.

Table 2 – Type of OOH Media (+)

Name	**Description**
Billboards	Outdoor stationary inventory whose audience moves by those locations on a trip to a destination. Billboard audiences are primarily within moving vehicles, but also include pedestrian traffic.
Street Furniture	Outdoor stationary inventory, many that provide a functional and public amenity, positioned in close proximity to foot traffic or adjacent to roadsides near vehicular traffic. Street furniture includes, but is not limited to transit benches/shelters, newsstands, kiosks, and interactive posts.
Transit*	Outdoor and indoor inventory affixed to moving vehicles or positioned at transport hubs. Moving vehicle (fleet) media are affixed to moving vehicles that can be seen by people in other vehicles and pedestrians. Transport hub and interior-vehicle audiences are typically pedestrians on the way to another destination.
Place-Based	Inventory located at a destination venue (indoors or outdoors) with associated dwell time. Place-based media audiences are typically pedestrians or can be individuals located within a Venue.

*Scenarios may exist where Transit OOH Media can transition to Place-Based OOH media. For instance, a person moving through a Transit Hub (e.g., airport, train station, etc.) that arrives at a destination, such as the airport gate or bus terminal where there may be associated dwell time, could be an example where there is overlap from Transit to Place-Based OOH media.

OOH media, including video and static display may or may not have an audio component. Audio-only OOH media are not fully addressed in this Standard though many of the principles and measurement methods apply. Audio-only providers were not prevalent at the time these Standards were written and specific requirements for audio-only OOH services will require evaluation so that further refinements can be considered as that form of OOH media develops and the need arises. Audio-only will be addressed through an addendum to this document or its successor, or in a separate document.

In instances when audio is employed in conjunction with video or display, the measurer must consider that the area in which someone can see the Display likely differs from the area in which the source can be heard. The measurer must determine how it will account for the variations in potential exposure, and disclose the methods used to determine each type of exposure, including any overlapping measure (e.g., Audio and Video) that may be included in reporting. Regardless of whether information is gathered directly from respondents, or developed using spatial definitions, empirical support must be maintained as to whether the medium is viewable and/or audible.

Video Reporting

The minimally acceptable base measure for reporting purposes for video-oriented OOH are measures associated with only the video component of the medium. Reporting on this single aspect provides for consistency and enables direct comparison across the various forms of video OOH media that may or may not have an audio component. Additional measures may be reported as optional variables and must be clearly labeled and defined, and represented as supplemental measures.

Following are a set of key metrics available for video OOH reporting:

Required Reporting Metric

- Measures associated with Video Only – Reflects an area in which exposure to the Video can be determined, and there is no assurance as to whether the audio can be heard. This area is referred to as the Visual Exposure Zone or Display Exposure Zone.

Optional Reporting Metrics

- Measures that reflect both Video and Audio – Based on an area in which the video can be seen and the audio can be heard.
- Measures associated with Audio Only – Considers an area in which the audio can be heard though there is no assurance as to whether the video is visible. This area is referred to as the Audio Exposure Zone.
- Measures that reflect either Video or Audio – Reflects the area in which someone has the opportunity to either see the video or hear the audio, and does not necessarily require that they have opportunity for exposure to both components. This is the most liberal definition among the reporting metrics, and in most instances will yield the largest Impressions based counts though, this will vary based on the environment in which the medium is delivered.

Display Reporting

The minimally acceptable base measure for reporting purposes for display OOH are measures associated with only the visual component of the medium. Reporting of this single measure provides for consistency and enables direct comparison across the various forms of Display OOH media that may or may not have an audio component. Additional measures may be reported as optional variables and must be clearly labeled and defined, and represented as supplemental measures.

Following are a set of key metrics available for Display OOH reporting:

Required Reporting Metric

- Measures associated with the visual component Only – Reflects an area in which exposure to the Display can be determined, and there is no assurance as to whether the audio can be heard. This area is referred to as the Visual Exposure Zone or Display Exposure Zone.

Optional Reporting Metrics

- Measures that reflect both Visual and Audio – Based on an area in which the Display can be seen and the audio can be heard.
- Measures associated with Audio Only – Considers an area in which the audio can be heard though there is no assurance the Display is viewable. This area is referred to as the Audio Exposure Zone.
- Measure that reflects either Visual or Audio – Reflects the area in which someone has the opportunity to either see the Display or hear the audio, and does not necessarily require that they have opportunity for exposure to both components. This is the most liberal definition among the reporting metrics, and in most instances will yield the largest Impressions based counts though, this will vary based on the environment in which the medium is delivered.

Audio and other considerations

The default reporting metric for Audio-only OOH media should be “Exposure to Audio Only”, though this does not restrict the measurer from reporting ancillary metrics. “Exposure to Audio Only” metrics must be segregated or clearly delineated from “Exposure to Video Only” or “Exposure to Display Only” related metrics. For example, reported metrics should not comingle “Exposure to Video Only” and “Exposure to Audio Only” metrics. Further, ad formats should also be delineated in reporting (e.g., display and video).

Measurers may elect to report on additional metrics, possibly indicating interactions, though these should not supplant the base measures of “Exposure to Video Only”, “Exposure to Display Only”, or “Exposure to Audio Only” for Audio-Only providers, and any additional measures should be clearly defined and disclosed.

Measurers that employ an audio-based measurement solution must consider that exposure within the Display Exposure Zone might be shaped differently than what the device measures. For instance, audio signals may be detectable outside the area in which the Display can be viewed (e.g., behind the Display) and may also be confounded by ambient noise. While an audio-based measurement technique can provide reasonable assurance of exposure to the audio content the same does not hold true for the video. Situations may also exist where the Video or Display is viewable and the audio is inaudible.

Measurers that employ an audio-based measurement solution must disclose this measurement limitation or take steps to account for these possible differences. The latter action will necessitate careful study so that logical adjustments can be applied that are supported by empirical evidence. The measurer must also delineate situations where the audio-based method is incapable of determining possible exposure due to the lack of audio present in the content or display device, and any method to adjust for this shall be supported by empirical evidence.

Detailed disclosure is necessary so that users understand the nature of the measurement and any subsequent adjustments, and include quantification of the magnitude of the adjustments.

The methods applied for measuring OOH media include:

- Determining the location, orientation, and characteristics of Display inventory so that appropriate measures of activity surrounding the Display can be established. Measurement should occur at the Display level so that information can be aggregated for ad campaign or network reporting purposes.
- In certain instances it may be desirable to report at a venue level, in which case it is important to establish Venue Traffic of appropriate quality (these establish the estimate of potential unduplicated Traffic by virtue of Presence in the Venue – the unduplicated Traffic estimates can never be more than the Venue Traffic).
- Establishing Viewable Impression estimates of appropriate quality (these establish the counts of potential individuals (or counts) to the Display by virtue of Presence within a zone where the individuals have an opportunity for exposure to the Display while a viewability condition exists).
- Establishing Likelihood-to-See Impression estimates of appropriate quality (these represent the number of individuals who were present with Opportunity-to-See and/or hear the source while a viewability condition exists, with evidence of notice or seen).
- Calculating average Ad Unit Impression estimates of appropriate quality, where applicable (representing a refinement of Impression estimates to account for actual Ad unit delivery, in lieu of media content, and based on Dwell Time of the individuals).

Measurement and reporting are also dependent upon having a complete Display classification database, including known locations, that are subject to independent verification of the asset registry and audit.

Measurers should seek to adopt a syndicated measurement approach, across the spectrum of OOH media, or at the very least among the various entities serving a particular category (e.g., Transit), and avoid custom methods unless dictated by a unique set of measurement circumstances. In instances where custom methods are employed users shall be informed of any measurement differences with steps taken to limit comingling of the data, ideally through separate reporting. This document describes major types of measurement techniques and
describes best practices and basic measurement quality requirements for each type.

1.5 Privacy

All data collection, processing and transmission processes must adhere to applicable privacy regulations and requirements. Data collectors and users should ensure proper permissions and access rights are present. MRC acknowledges that such privacy requirements may prevent inclusion or otherwise require anonymization of some data fields, particularly those related to user identifying or targeting data. It is critical that privacy be considered and protected in all aspects of OOH measurement.

Measurement organizations are encouraged to consider and comply with additional industry and regulatory guidelines and requirements in this area including the EU General Data Protection Regulation (GDPR) where applicable and the following:

The *IAB's Mobile Location Data Guide for Publishers*:
(https://www.iab.com/wp-content/uploads/2016/04/IAB_Mobile-Location-Data-Guide-for-Publishers_Feb2016-Revised.pdf)

The *Digital Advertising Alliance's Self-Regulatory Principles*:
(http://www.aboutads.info/principles)

The *Network Advertising Initiative's Code of Conduct*:
(https://thenai.org/accountability/code-of-conduct/)

Additionally, measurement organizations seeking MRC accreditation are required to adhere to relevant *MRC Minimum Standards* in this area. Localized privacy regulations must also be considered. Privacy regulations as they emerge must be monitored and staged for the measurement organization as soon as known.

2 Measurement Definitions

IMPORTANT: Many of these definitions are taken from existing sources including the DOOH Glossary of Terms assembled through a collaborative effort involving Geopath, IAB, DSF, and DPAA, OAAA, and WOO Guidelines, plus DPAA's *Glossary of Buying and Selling Terms for Digital Place-Based Advertising Networks* (the Glossary) and the CIMM Lexicon. In some cases, existing definitions have been modified and/or expanded by the MRC and project participants; this was necessary to add specificity and to make the definitions fit to be used in these measurement Standards, and to the extent possible, congruent with terms employed in other media. *The text is presented italicized in those cases where a definition has been taken from an existing source.*

Ad Campaign: A series of Ad Units delivered for an advertiser during a defined period of time.

Ad Impression: *See definition on page 21.*

Ad Rotation Duration: *The number of seconds required to view all of the ads in a rotation or Loop.* (Note: this applies to situations in which an ad rotation or a Loop exists, and neither of these elements are required.)

Ad Segment: The portion of the Loop, or some other defined period of time, containing advertising content. The Ad Segment can contain one or more Ad Units, and is also referred to as commercial pod.

Ad Unit (Unit): A piece of creative content designed to deliver a message (i.e., an ad) intended for an Advertiser's existing or prospective customer base. Ad Units are designed to conform to the media in which they will be delivered. Ad Unit is analogous to the term "Spot" as applied in other media.

Ad Unit Length (Ad Duration or Ad Length): The duration of the Ad Unit as applicable to Video and Audio. Display ads that rotate periodically can also have an assigned duration, which is equivalent to the amount of time the Ad Unit is intended to be displayed. Ad Unit Length is also known as Ad Duration or Ad Length.

Affidavit: *Legitimate proof of posting by the vendor that the advertiser's message ran as scheduled*. The terms of what constitutes acceptable elements of an Affidavit (e.g., play log, proof of play, controls, images, etc.) should be agreed to by the buyer and seller prior to initiation of the ad campaign.

Audience: The number of individuals estimated to be within the Display Exposure Zone and meet certain qualifying criteria, with Audience being a further refinement of LTS Impressions whereby additional criteria is applied; this criteria will be determined as part of Phase 2 of the OOH Standards. Audience can be further refined to reflect times when only Ad content is viewable (i.e., Ad Audience) or restricted to those times when only program data is viewable (e.g., Program Audience). When no distinction is made as to whether Ad content or program content is viewable, Audience counts are considered to be only a surrogate measure for Ad Impressions, and this limitation should be clearly disclosed.

Audio Exposure Zone –The physical area in which a person has an opportunity to hear a specific OOH medium source (e.g., display, poster, etc.). This is also referred to as the viewshed.

Average Ad Impressions: Average Ad Impressions represents Impressions to a period of time equivalent to the length of an Ad Unit delivered by the distributor (:30, :60, etc.). Average Ad Impressions can also be stated on a measure of time independent of the size of the Ad Units, for instance average minute that is a commonly accepted metric.

Circulation – See Location Traffic

Content – Program or ad material intended for delivery through the Display, and this can be video, audio, or both. Promotional activity and Public Service Announcements also qualify as a form of Content.

Content Impression: *See definition on page 21.*

Content Segment: The portion of the Loop, or some other defined period of time, containing program or non-advertising content.

Coverage Area: *Geographic area covered by network installations.*

Daypart*: A period of time in which an ad or content segment is constrained to for reporting purposes, and these are typically established based on appeal to a particular demographic or target audience.*

Display: A device or medium designed to deliver OOH Content and/or Advertising in various forms including video, display, audio, or a combination of these elements.

Display Exposure Zone: The physical area in which a person has an opportunity to see and/or hear a specific OOH medium source (e.g., display, poster, etc.). This is also referred to as the viewshed, and can be further delineated as Visual Exposure Zone or Audio Exposure Zone depending on the characteristics being measured.

Display Impressions: *See definition on page 21.*

Dwell Time: The length of time spent by an individual or the audience in the Display Exposure Zone.

Exposure (Opportunity-to-See): – Presence in the defined Display Exposure Zone while content is deemed to be viewable, though this does not require that the content be viewed or listened to. Exposure is also often referred to as Opportunity-to-See. Directionality should be considered, where appropriate.

Gross Impressions: The number of individuals, over a period of time, where Presence in the defined Display Exposure Zone exists while the Display is functional. An individual may be counted more than once when evidence exists demonstrating the individual transited in and out of the Display Exposure Zone on different occasions while the display is functional. Obstructions would not necessarily negate the counting of gross impressions. Gross Impressions can be further delineated to account for conditions such as viewability (OTS) and the added measure of Likelihood-to-See (LTS), as defined and represented below. Gross Impressions can help dimension maximum counts that could be potentially qualified as audience, or other derivations of impression counting (e.g., Viewable Impression, LTS Impressions).

Location Traffic (Also referred to as Circulation, Traffic Count, or Traffic) – The count of individuals in a defined location (i.e., consideration of Presence) that can account for pedestrian and vehicular movement. The location can be as discrete as an area in the proximity of Display, a predefined geographical area (e.g., zip code, county, etc.), or a Venue (e.g., mall, stadium, etc.). Solely based on presence at a location, area of venue – and not necessarily a zone related to the OOH media.

Loop: *Segments of content and advertising programmed to a specific length that repeats on standard intervals. Example: A six-minute Loop that contains 11-15 second ad positions along with editorial content. The Loop repeats 10 times an hour, providing 10 plays for each message per hour, each message playing once in the Loop.* The use of a Loop is not required and is not relevant in a pure ad serving environment where ads are served dynamically, with varying times and content associated with them.

LTS Impressions (Likelihood-To-See) – A further refinement of Viewable Impressions whereby an adjustment is applied to account for the likelihood individuals noticed or saw the Content or Ad on the Display. (See Gross Impressions for added context on Impression counting)

Non-Probability Samples*: Any of several different sampling schemes in which the elements in the "sampling frame" do not have both a known and non-zero probability of selection. It is impossible to calculate this type of study's margin of sampling error though methods exist that allow you to approximate a value.*

Obstruction: A condition in which the Display is visually or audibly blocked, partially or in its entirety, from the audience.

Opportunity-to-See: See Exposure.

Presence: The state of being present in a defined location, whether it is a predetermined discrete area surrounding a Display or within the defined Display Exposure Zone. There should be sufficient consideration and controls to ensure accuracy of presence determination, especially when relying on digital location methods (See section 4 of this document)
Probability Sampling: *Any of several different sampling approaches in which each element in the population has a known, non-zero probability of being selected.*

Response Rate: *The percentage of eligible sample units that provide usable, complete information in a survey.*

Sample Frame: *A listing that should include all those in the population to be sampled and excludes all those who are not in the population.*

Syndicated Measurer – An entity that measures and reports audience or other metrics across multiple properties, content distributors or providers that are used to support planning and buying of advertising. It is preferred that the measurer be independent of the media being measured, and that a consistent method of reporting be made available to all users of the data.

Tracked Ads - The number of ads where measurement was initiated and counted when a vendor's measurement assets have fully downloaded and initiated, but prior to ad content loading and rendering. This metric should not be labeled as an Ad Impression without qualification.

Traffic– *See Location Traffic*

Unit: *See Ad Unit*

Venue: The place and location of the advertising network and Displays. Examples include supermarkets, office buildings, gas stations, and other places where consumers can be found.

Venue Traffic – The number of individuals estimated to be present in the venue. Employee/worker venue traffic to be included in traffic counts, unless deemed not legitimate or invalid.

Viewshed: See Display Exposure Zone.

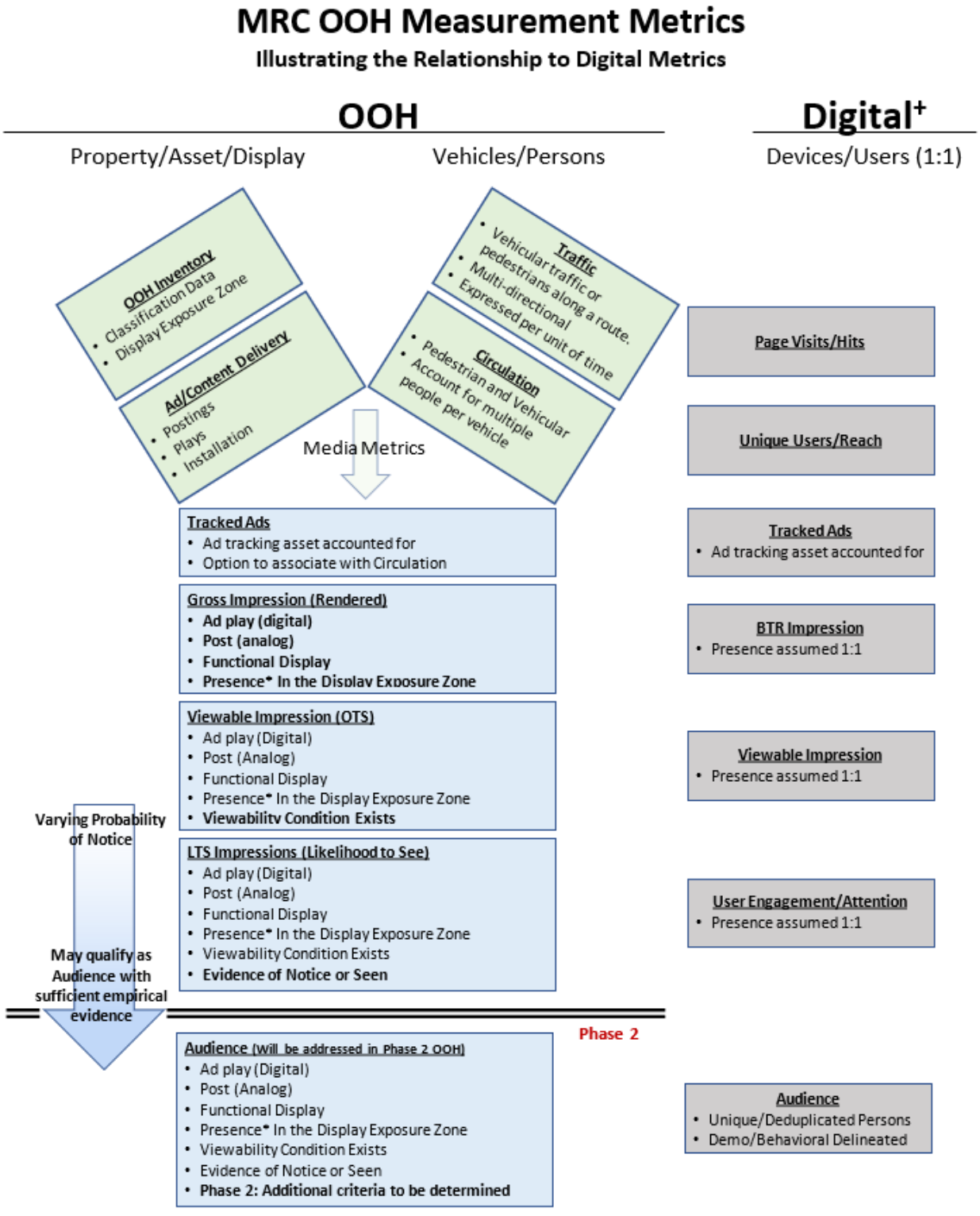
Viewable/Viewability – Assurance that content and/or ads are present on the Display so that it can be viewed or listened to, thereby enabling the possibility of Exposure. Measurement of ad content has specific requirements in terms of the duration and portion of the ad content that must be present in order to be considered viewable. Obstructions would negate the Display being viewable or meeting the viewability condition.

Viewable Impressions - The number of individuals, over a period of time, with Presence in the defined Display Exposure Zone while a Display is functional and a viewability condition exists. Obstructions would negate the counting of viewable ad impressions. (See Gross Impressions for added context on Impression counting)

Visual Exposure Zone – The physical area in which a person has an opportunity to see a specific OOH medium source (e.g., display, poster, etc.). This is also referred to as the viewshed.

Weighting: *Statistical adjustments applied before data are analyzed, to account for respondents' unequal probabilities of selection in probability samples, as well as to project in-tab sample to defined universe estimates.*

3 Out-of-Home Metrics



* Presence – Applied because the number of people per property/asset/display can be large for OOH and people are engaged in other activities and not intending to consume the media as a purposeful activity, thereby creating a greater risk of overstatement

+ Digital in this context refers to personal devices (desktop computer, mobile devices etc.) and not digital signage in OOH environments.

3.1 Display and Ad Measurement

Display measurement provides valuable insight as to the level and nature of impressions or audience counts that OOH media are capable of delivering, and as such provides for some measure of comparability to other measured media. Display measurement alone; however, is not sufficient to establish impressions to advertising, since in some cases, Display measurement will encompass times when program content as well as ad content are being delivered. Audience counts are considered to be only a surrogate measure for Ad Impressions when there is no accounting for whether Ad or program content are viewable and this limitation should be clearly disclosed. Strong efforts should be undertaken to directly measure Ad activity rather than rely on a surrogate.

3.1.1 General Guidance

Audience is the most common and valuable currency metric for media in the U.S. and as noted earlier, the Audience metric will be addressed in a second release of this document. Additional metrics can be produced to serve the planning, buying, and analysis needs of the OOH marketplace, absent the measurement and reporting of an Audience metric, and these vary in terms of measurement intensity and value.

Location traffic of persons or pedestrians either transiting on foot or in vehicles, or situated in an area, while easier to measure, provide the least value due to missing evidence of Opportunity-to-See and/or hear. Viewable Impressions are more valuable than Location Traffic in that a viewable impression accounts for Presence in the Display Exposure Zone which provides the Opportunity-to-See while a viewability condition exists. The next higher level is Likelihood to See (LTS) impressions that must meet all of the qualifying criteria for viewable impressions as well as an additional determination that the Display is noticed or seen.

Measurement organizations should strive to report metrics in a manner that makes them directly comparable to existing media metrics to enable direct comparison to other media and to facilitate cross-media comparison.

3.1.2 Core Metrics (Location Traffic, Impressions (Gross, Viewable (OTS), LTS))

A Hierarchy of OOH Measurement

Section	Metric
3.1.2.1	Location Traffic
	⇩
3.1.2.2	Impressions (Gross, Viewable (OTS), LTS)
	⇩
3.1.2.2.1	Gross Impressions (Impressions – Rendered)
	⇩
3.1.2.2.2	Viewable Impressions (OTS)
	⇩
3.1.2.2.3	Likelihood-to-See Impressions (LTS)
	⇩
Phase 2	Audience (Addressed in Phase 2)

3.1.2.1 Location Traffic

Qualifying Criterion

- Presence

Location Traffic can be a basic component of calculating Impressions or Display Audience estimates though it is not required for reporting. Measurement approaches involving direct persons counting methods independent of the environment, such as facial or other automated detection techniques, are not reliant on area counts, and so Location Traffic would not be necessary. Traffic estimates can represent both pedestrian as well as vehicular traffic, and for the latter, estimates of the number of passengers per vehicle can be applied to develop circulation counts, producing a more complete measure. Location Traffic does serve a purpose in that it can be used to gauge the maximum potential audience to an OOH asset or medium, though it is not required. Location Traffic is insufficient in nature to qualify, alone, as either Impressions or audience.

Location Traffic can be attributed to a discrete area surrounding an OOH media asset, for instance, an intersection adjacent to a billboard, or can be aggregated to much larger areas, for instance, Venues.

Location Traffic does serve a purpose in situations where measurement is dependent on knowing the pedestrian traffic or persons in the area. The criterion for inclusion in Location Traffic is Presence at the location, and this Presence at the location must be established to qualify for Impression counts or audience estimates. Specifically, to qualify for inclusion in Impression counts or audience a person must be documented to be present at the location.

Location Traffic can be established solely by counting procedures and is often times secured from third-party sources, and these sources must have sufficient evidential matter to establish Presence.

Passive methods are preferred, and regardless of the method counts shall ensure fluctuations by day of week and time of day are accounted for.

Transit figures or transactional data, such as register receipts or ticket sales are often times relied on for Location Traffic. When these data are gathered from disparate sources (e.g., sales data from multiple sources), or through technology solutions that are subject to overlap, there shall be some study or means to account for possible duplication, and any subsequent adjustments shall be empirically supported and disclosed. Measurers should avoid reliance on surrogate data (e.g., retail transaction information in lieu of mall data, or third-party ridership estimates in lieu of ticket sales) unless there is sufficient evidence of a strong correlation, and any differences are accounted for. These data shall be periodically monitored and assessed to determine their continued validity and whether further adjustments are necessary.

If Location Traffic figures are based on periods prior to the measurement period, and thereby inferred to be applicable to the measurement period, the specific periods actually measured for Location Traffic estimates shall be disclosed. It is preferable for the Location Traffic measurement period and the Impressions or audience measurement period to closely correspond in time, preferably overlap. Significant timing deviations create risk that Location Traffic information cannot be attributed accurately to Display Impressions or Audience, thereby lessening the utility of the measurement data. Seasonality at the location should be strongly considered, with material adjustments made when measurement periods differ.

Location counting data shall be subject to quality control checks that prevent material error and subject to periodic internal auditing to verify accuracy. Evidence supporting area counts shall be retained for at least 12 months following release of specific Impressions or audience data.

Operating times for the location should be stated, and qualification for inclusion in counts shall be limited to the location operating times. Sufficient internal controls shall be established to: (1) ensure accurate capture of operating times across measured locations, and (2) the application of these times to counting procedures (exclusion of pedestrians or traffic during times when the location is closed or not accessible).

If third-party estimates are used by the measurement organization in establishing location counts, the measurement organization should have sufficient understanding and visibility into the accuracy of these estimates. Access to observe and/or verify vendor processes and access to the counting data itself are critical to establishing a basis for relying on such data for measurement purposes.

In situations in which the processes associated with an underlying data source cannot be independently verified or observed, the measurement service shall develop some means to obtain the necessary assurance on the quality of this foundational data, with evidence that these controls are adequate for the task and functioning as intended. Disclosure is required when an underlying data source is not an industry recognized trusted provider (e.g., US Census), and cannot be independently verified.

Location data is considered a foundational element to measurement, in those instances where direct persons measurement independent of the environment are not utilized (e.g., automated detection techniques), and as such all aspects must be periodically validated as well as subject to independent

external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

3.1.2.2 Impressions (Gross, Viewable (OTS), LTS)

Impressions are another component of calculating the Display Audience estimates, and also are not sufficient in nature, alone, to qualify as audience counts. Similar to Location Traffic, Impressions estimates are not a necessary component for calculating audience when there is a direct measurement of persons independent of the surrounding environment, for instance, utilization of facial detection technologies, GPS technologies, cell-tower triangulation, applications, or other methods. Impressions can still serve a purpose to dimension the maximum potential audience to a Display, though it is not a required element in these situations.

Digital Display and Video ads must be loaded and at minimum begin to render on the Display in order to count as a valid Gross Ad Impression. Measurement of begin-to-render should include logical components necessary to display the ad, but does not necessarily include logical elements that are not essential (such as other tracking elements). This provides greater assurance to advertisers that the ad was actually delivered to a device, and was not subject to delivery interruptions such as those posed by ad blocking, pre-rendering, or latency effects. It also creates a more appropriate basis for other important ad delivery measures, such as viewable impressions, as well as other analytical metrics that are based on the initial delivery of the ad content.

Content or Ads distributed via Analog Displays are not typically rendered in a dynamic manner and subject to the same delivery interruptions (e.g., latency, pre-rendering, etc.) as in a digital environment, though there may be situations where rotation or some other form of switching of materials may occur. Absent rotation or other form of switching event that may render the material unviewable for a period of time, the Analog OOH Display would be considered viewable when it is determined that the Content or Ads have been installed and properly maintained during the measurement period. Any obstruction would negate the counting of viewable impressions.

A mechanism should exist to assess inventory for obstructions in a manner that ensures all assets are evaluated over the course of a pre-defined period of time, not to exceed 12 months. Stratification should be considered to allow differing verification intervals based on assigned risk.

A measurement vendor may elect to measure and report the number of ads where measurement was initiated, and this metrics should be reported as Tracked Ads, and alternate labeling may apply. This activity can be counted when a vendor's measurement assets have fully downloaded and initiated, but prior to ad content loading and rendering. This metric should not be labeled as an Ad Impression, without qualification, but will assist both buyers and sellers in addressing rendering issues by providing a means to ascertain ads that do not render.

Measurement of impressions does not alone ensure measurement to the Advertising, unless the Display solely displays advertising content, and all the prerequisite measurement conditions are determined to have been met. In certain instances, the Display delivers advertising as well as programming content, or other non-advertisement material, and this creates challenges and added requirement for measuring discrete types of impressions, producing three types of reporting scenarios:

- Display Impressions – There is no effort to differentiate nor account for the type of content (Ad or program) displayed on the Display at the time measurement occurs and as such, estimates may represent some mixture of the two.
- Ad Impressions – Measurement is restricted to, or in some ways accounts for times when solely Ad content is visible (i.e., Ad Unit or Ad Segment). This is relatively easy to accomplish when the Display is dedicated to delivering solely Ad content, and much more complex when a Display delivers a mix of Advertising, program content, and other information. Ad Units should be tracked independently, noting situations whereby the information is deemed to be promotional activity or a Public Service Announcement (PSA). Ad Measurers must disclose their methods for handling promotional activity and PSAs, and notify users as to whether these items are included as part of impression reporting.
- Content Impressions – Measurement is limited to times when program content, and no Ad content appeared on the Display (i.e., Content Segment). These metrics can be useful in assessing the value of program content. Measuring content only, when a mix of material is intended to be delivered to a Display creates a similarly challenging situation as measuring Ad Impressions alone.

Measurers must also consider that automated activation triggers may be employed by OOH sources that cause content to change based on certain conditions, such as time of day, temperature, weather forecasts, or trending events, and assess whether this may alter ad delivery.

The following documents contain additional guidance on impression measurement and reporting:

- Digital Video Impression Measurement Guidelines
- Viewable Ad Impression Measurement Guidelines
- Mobile Viewable Ad Impression Measurement Guidelines

Dwell Time in the Display Exposure Zone must also be considered in order to be counted.

Measurement organizations should consider that an ad must run at least one time during the Dwell Time (based on Loop size or period being measured, and the frequency) to be exposed and projected to 100% of the Display impression counts. Otherwise, calculation processes must be used to fractionalize the impression estimates.

If Dwell Time for respondents is established through technology-based means, the accuracy of the techniques shall be established through rigorous periodic testing with general accuracy rates described to measurement users. Technical tools should function accurately for the entire Display Exposure Zone; otherwise, modification of the zone should be considered. Physical or operational limitations of the technical tool shall be disclosed and the tool shall be subject to audit.

Non-technical measurements of Dwell Time, such as those based on a survey/interview of a sample of respondents are subject to traditional quality controls and best practices. These forms of measurement are generally incapable of distinguishing between exposure to ad content or program content when both types are present. In these instances, reporting is to represent general impressions and not to distinguish between ad or content exposure.

Internal controls shall exist to ensure advertisements are inserted as intended and ad content of Displays is accurately captured and reported to measurement users…essentially ad trafficking controls.

These controls shall be periodically validated for accuracy for internal purposes. Independent organizations exist that can assist in assessing the effectiveness of ad trafficking controls and compliance.

Known variations in pedestrian or vehicular traffic that lead to variations shall be described to users of measurement data and accounted for in projections of samples or other forms of measurement. Variations may be the result of seasonality, time of day, day of week, or other such factors.

Dwell Time is typically defined on the basis of seconds, but if longer Dwell Times are typical, this can be converted to minutes. Dwell Times shall be measured with sufficient frequency to ensure they are representative of reported behavior keeping in mind such factors as time of day, day of week, seasonality, and other variables that may cause variation. Measurement organizations should keep in mind that Dwell Times can vary based on content and advertising within the Display's media, so venue and Display environments are not the sole source of Dwell Time variability.

For Display (i.e., non-video) Advertising and analog forms of OOH media, Dwell Time becomes less of a consideration though there must be evidence demonstrating Presence during times at which ad or program content was viewable. Impressions would then be calculated based on Presence during the applicable measurement period, and when the Ad or program content was viewable.

3.1.2.2.1 Gross Impressions (Rendered Impressions) (device level or persons)

Qualifying Criteria

- Functional Display
- Presence In the Display Exposure Zone

The qualifying criterion for inclusion in Gross Impressions estimates is Presence at the specific media Display within the Display Exposure Zone while the Display is determined to be functioning. Obstructions would not necessarily negate the counting of gross impressions.

Gross Impressions can help dimension maximum counts that could be potentially qualified as audience counts, or be further delineated to account for conditions such as viewable impressions (OTS) and the added measure of Likelihood-to-See (LTS). Gross Impressions are based on the least restrictive set of criteria among the differing types of impressions metrics; therefore, its count levels will generally exceed that of LTS and OTS impressions, though in no instance will it be lower. The qualifying criteria and requirements associated with determining Gross Impressions counts are also to be applied when establishing OTS or LTS impressions metrics that are documented later in this document.

Presence in the Display Exposure Zone (where required) must be established with sufficient evidential matter. Generally, this is based on observation or other direct method of counting (manual observation, survey-based response or technology-based electronic means). Passive methods that do not entail direct interaction with respondents are preferred. Regardless of the method, counts shall ensure that fluctuations by day of week and time of day are accounted for. Impressions estimates require that an established viewable area around the Display, commonly referred to as a Display Exposure Zone, be determined that restricts the count for a specific media Display. Facial detection processes, or other direct persons measurement techniques that are not reliant on the surrounding environment may be used; however, must be able to account for the differing characteristics among

Display Exposure Zones, adjusting for size, angle of view and other variables that may impact an individual's ability to view or hear the Display.

If Impressions figures are based on periods prior to the measurement period, and thereby inferred to be applicable to the measurement period, the specific periods actually measured for Impressions metrics shall be disclosed. It is preferable for the Impressions measurement period and the audience measurement period to closely correspond in time, preferably overlap. Significant timing deviations create risk that Impressions information cannot be attributed accurately to Display audience, thereby lessening the utility of the measurement data. Seasonality in Impressions should be strongly considered, with material adjustments made when measurement periods differ.

Impressions data shall be subject to quality control checks that prevent material error and subject to periodic internal auditing to verify accuracy. Evidence supporting Impressions data shall be retained for at least 12 months following release of specific Impressions or Audience data.

The specific nature, size and empirical evidence supporting the basis for a Display Exposure Zone shall be retained and also disclosed to users. If Display Exposure Zones vary in size based on the environment of the location or Display setting, this shall be described and dimensioned for the user of Impressions or Audience data.

Operating times for Displays should be stated, and qualification for inclusion in counts shall be limited to Display operating times and when the Display is functional. Sufficient internal controls shall be established to: (1) ensure accurate capture of these operating times across measured Displays, and (2) apply these times to counting procedures, specifically excluding pedestrians or traffic during times when the Display is not operational or functional.

Services shall rely on industry accepted Display classification databases for measurement and reporting purposes, and the source should be subject to independent third-party verification and audit. (See Section 7)

Measurement organizations should have sufficient understanding of the accuracy in establishing Impression counts, locations, and other Display classification details, as well as in determining the Display Exposure Zone. Access to observe and/or verify vendor processes and access to the counting data itself are critical to establishing a basis for relying on such data for measurement purposes.

In situations in which the processes associated with an underlying data source cannot be independently verified or observed, the measurement service shall develop some means to obtain the necessary assurance on the quality of this foundational data, with evidence that these controls are adequate for the task and functioning as intended. Disclosure is required when an underlying data source is not an industry recognized trusted provider (e.g., U.S. Census), and cannot be independently verified.

Impressions estimates are considered a foundational element to measurement and as such must be periodically validated as well as subject to independent external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

3.1.2.2.2 Viewable Impressions (OTS)

Qualifying Criteria

- Functional Display
- Presence In the Display Exposure Zone
- Viewability Condition Exists

Viewable Impressions must meet all of the qualifying criteria and requirements necessary to establish Gross Impressions as specified above, plus have the added criteria of determining a viewability condition exists. Obstructions (e.g., physical or non-physical, permanent or temporary, visual or auditory) would negate the counting of viewable ad impressions. Directionality of traffic should also be considered, where appropriate.

Generally, to qualify for inclusion in Viewable Impressions, individuals must not only be documented to be present at the locations but must be documented to be present at the Display, in the Display Exposure Zone, while the Display is functional and a viewability condition exists. The above qualifiers for Viewable Impressions are not required in situations where a direct person counting mechanism is utilized that is independent of activities in the surrounding environment. Viewable Impressions are not sufficient in nature, alone, to qualify as audience counts (the Audience metric will be in Phase 2 of the OOH Standards).

Operating times for Displays should be stated, and qualification for inclusion in counts shall be limited to Display operating times and when content is deemed viewable. Illumination as well as seasonality effects that may alter hours of daylight and darkness must be considered. Sufficient internal controls shall be established to: (1) ensure accurate capture of operating times across measured Displays, and (2) the application of these times to counting procedures (exclusion of pedestrians or traffic during times when the Display is not operational or content is otherwise not viewable).

Viewable Impressions estimates are considered a foundational element to measurement and as such must be periodically validated as well as subject to independent external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

3.1.2.2.3 LTS Impressions (Likelihood to See)

- Qualifying Criteria
- Functional Display
- Presence in the Display Exposure Zone
- Viewability Condition Exists
- Evidence of Notice or Seen

LTS Impressions must meet all of the qualifying criteria and requirements necessary to establish Viewable Impressions as specified above, and additionally establish that the Display was likely either noticed or seen. LTS Impressions are not sufficient in nature, alone, to qualify as audience. The determination as to whether the Display was likely seen or noticed may not be sufficient to qualify the LTS impression as audience since the probability can vary depending on the nature and characteristics of the display, plus the surrounding environment and conditions, and the strength of the measurement technique. Some Displays may be deemed to have a lower likelihood to be seen or

noticed than others, and the certainty to which a Display meets these conditions shall be described and dimensioned to users of the data.

Generally, to qualify for inclusion in LTS Impressions, individuals must not only be documented to be present at the locations but must be documented to be present at the Display in the Display Exposure Zone, while the Display is functional and a Viewability condition exists, plus evidence the Display was seen or noticed. The above qualifiers for LTS Impressions are not required in situations where a direct person counting mechanism is utilized that is independent of activities in the surrounding environment.

LTS Impressions estimates are considered a foundational element to measurement and as such must be periodically validated, as well as subject to independent external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

3.1.3 Extended Calculated Metrics (Average Ad Impressions, Average Ad Segment Impressions, and Reach & Frequency)

3.1.3.1 Average Ad Impressions

Media sources have been slowly moving toward discrete measurement of advertising to a specific advertising creative.

Impressions associated with advertising can be stated on the basis of an “average” ad which is the easier execution, and can be reported on the basis of a defined duration (e.g., :30, :60, etc.), or on the basis of a specific ad campaign or creative which is technically more difficult.
It is recommended that Average Ad Impressions be measured and reported on the basis of LTS Impressions, which are considered to be the most valuable for the purpose of buying and selling advertising, and in all instances, Measurers must clearly label and disclose the basis on which the type of Average Ad Impression are formed, for instance Gross Impressions, OTS Impressions, or LTS impressions.

Average Ad Impressions represent Impressions to a period time equivalent to the length of an Ad Unit delivered by the distributor (:30, :60, etc.). Average Ad Impressions can also be stated on a measure of time independent of the size of the Ad Units (e.g., average minute that is a commonly accepted metric). Average minute estimates can also be averaged across broader time periods, for example quarter hour or daypart, or for a defined program segment. Average minute and quarter hour reporting can help facilitate comparisons to other media.

To qualify for inclusion in Ad Impression counts, all of the prerequisite conditions for the respective Impression type (i.e., Rendered, OTS, LTS) must be met, plus there needs to be an accounting to restrict measurement and reporting to only those periods when advertising content is displayed. Trafficking (i.e., programming, Ads, and Loops) internal controls are very critical in determining the accuracy of Average Ad Impressions.

General reporting of Average Ad Impressions does not account for the different types of brand or creative messages that may be delivered during the measurement period, and so this method is well suited for situations in which dynamic ad insertion occurs. Promotional activity and Public Service

Announcements (PSAs) shall also be identified and the methods used to account for these forms of content shall be disclosed.

Ad Impressions to a specific creative Ad Unit or brand messaging can be produced though this requires added controls to ensure measurement and reporting are restricted to those times when the specified creative message is displayed. Technically this is much more complex and Ad trafficking internal controls become even more critical. Added controls are also necessary to establish Dwell Time and ensure other related estimation procedures are sufficiently granular and functioning properly to enable this more discrete form of advertising measurement. Dynamic Ad insertion is measurable, though this increases the level of complexity and warrants added controls.

Procedures to calculate average impressions to content are the same as those for calculating Average Ad Impressions, except the measurer instead controls for those times when content is delivered through the Display as opposed to advertising. Promotional activity and Public Service Announcements (PSAs) shall also be identified, and the methods used to account for these aspects shall be disclosed.

3.1.3.2 Average Ad Segment Impressions

Average Ad Segment Impressions represent impressions to a unit of time that is equivalent to the length of the average Ad Segment delivered by the Network. The Ad Segment represents that portion of the Loop or some other defined period of time during which program content and advertising are intended to be delivered (e.g., daypart), that contains advertising. The Ad Segment may contain one or more brand or creative Ad Units. Promotional activity and Public Service Announcements (PSAs) shall be identified and the methods used to account for these forms of content shall be disclosed. This is the first, most general, measure of exposure to OOH advertising. Average Ad Segment Impressions requires measurement of the respondent's Dwell Time during exposure to the Display, which then needs to be considered in context of the advertising within the Loop, and the Loop frequency. In order to be reported as Ad Impressions, Dwell Time estimates must be restricted to those periods during which ad content is viewable, otherwise reporting is restricted to general impressions. Dwell Time that accounts for periods when non-ad content is displayed, for instance Content Segments, or some combination of Ad and Content Segments, can be used to calculate a general impression figure for the Display or OOH source; however, this cannot be represented as Ad impressions.

It is recommended that Average Ad Segment Impressions be measured and reported on the basis of LTS Impressions, which are considered to be the most valuable for the purpose of buying and selling advertising, and in all instances, Measurers must clearly label and disclose the basis on which the type of Average Ad Impression are formed, for instance Gross Impressions, OTS Impressions, or LTS impressions).

3.1.3.3 Reach and Frequency

Reach and Frequency are important variables to understand in selling OOH media and similarly are important for those entities that plan and buy these media.

Reach is the net (unduplicated) count or percent of the defined universe of the target impressions exposed to content, advertising, or a specific ad, in a Display Exposure Zone within a defined time frame. This time frame can be a day, week, or month, or even less frequent time periods although more frequent reports are generally desirable to users.

Frequency refers to the number of times the universe of target impressions is typically exposed to content, advertising, or a specific ad, in the defined time frame. Frequency represents the average exposure when used in conjunction with cumulative reach estimates, though it can also be reported on the basis of specific exposure levels when evaluated in the context of discrete reach estimates through frequency distribution analyses.

It is recommended that unduplicated counts and frequency estimates be measured and reported on the basis of LTS Impressions, which are considered to be the most valuable for the purpose of buying and selling advertising, and in all instances, Measurers must clearly label and disclose the basis on which the type of Average Ad Impression are formed, for instance Gross Impressions, OTS Impressions, or LTS impressions.

Reach and Frequency can cross Display locations, and in some cases Display types, and are aggregations from more granular measurements described above – but in all cases Presence, Dwell Time, and View are required for Reach and Frequency estimates for OOH media.

Methods for establishing unduplicated Reach counts shall be disclosed and periodically tested for effectiveness. This process may require use of modeling/estimation techniques and collection of duplication rates. Likewise, these estimation techniques shall be supported by sufficient empirical evidence of effectiveness and be periodically validated and subject to audit.

Respondent surveys/interviews requiring recall of exposure over specified time periods (day, week(s), a month, etc.) are subject to traditional quality controls and best practices. Technology-based solutions may also be used to assist in determining levels of duplication, and the accuracy of these techniques shall be established through rigorous testing and independently verified through an external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

Syndicated measurement services shall strive to conduct research in a manner that allows for the calculation of Reach and Frequency estimates across media networks based on empirical data, and not solely derived through modeling processes. The measurement should be sufficiently granular, and consistent, in terms of reporting period (e.g., daily, weekly, etc.) with data reported for other media to allow for cross-media comparisons.

Reach and Frequency metrics may also be calculated on a Viewable Impressions basis, and in these instances, it should be disclosed as such with an added notation that Viewable Impressions alone do not qualify as audience.

Measurers should seek to report Reach/Frequency metrics on the same basis as other media to allow for direct comparison and to facilitate cross media comparisons.

3.2 Other Considerations

3.2.1 Attribution

Measurement organizations may sometimes use techniques other than direct observation, for instance, surveys or reliance on independent data sources, to attribute characteristics to traffic at a Display within the Display Exposure Zone as well as related impressions measurement. If these techniques are used, they shall be subject to rigorous testing and evaluation. Efficacy of these

techniques must be established and disclosed by the measurement organization to measurement users.

In general, a measurement organization must directly collect at least a portion of the actual characteristics (i.e., modeling and attribution methods cannot be used as the sole source of assigning characteristics). This directly collected data is essential to the validation of the attribution method over time.

The proportion of attributed to actually gathered characteristics shall be disclosed and if this proportion varies by targeted/reported characteristic the nature and extent of the variability should be disclosed to measurement users.

Attribution techniques shall be subjected to periodic re-affirmation testing over time, since traffic patterns and behavior can change.

3.2.2 Cross-Media Considerations

Measurement organizations should consider and strive to develop systems that are comparable with other competitive media types to help facilitate the integration of OOH data with data on other media. Accordingly, the following measurement attributes are encouraged, but not required:

- Use of measurement techniques that are similar to best practices in other media.
- Development of a gross rating point type measurement for advertising audiences to facilitate metric comparability.
- Consider a method to produce unique audience when combining estimates with other media.
- Adopting a frequency of measurement that is relevant across media types, which may entail increasing the frequency of measurement in OOH media.
- Segregating content from advertising measurement – a technique that is either already accepted or emerging in other media.
- Measurement and reporting of demographic and geographic characteristics comparable to those available for other media

4 OOH Measurement Specifics

4.1 Measurement Approaches

An interesting but complex area of OOH media is the varied nature of the media formats and locations and subsequent measurement techniques used. Almost all OOH media depend on a combination of measurement techniques and these techniques vary among the sources. Some rely on third-party sources of traffic or pedestrian data and other audience information, and others rely solely on third-party measurement organizations that may themselves depend on third-party sources for certain of their data. The following presents a summary of most of the techniques employed. If a specific technique is not presented here, the OOH source and measurement organization should use the concepts expressed herein to develop controls and disclosures for their technique.

Passive measurement methods are acceptable when feasible, and in many situations are preferred, though passive measurement is not a requirement under these Standards. When seemingly passive measurement technologies require involvement or action by a respondent or panelist, it is incumbent on the measurement service to employ sufficient techniques to ensure each individual complies with

the assigned tasks; otherwise the potential benefit of passive measurement will be rendered less effective.

Note that not all of the methods are necessarily applicable to each of the component metrics (e.g., Location Traffic, Viewable Impressions etc.), and that each method, regardless of whether it be a technology-based solution or dependent on respondent recall has inherent limitations that should be studied and disclosed.

As it relates to counting techniques, whether census or sample, more passive observational techniques are preferred because of the likely minimization of non-response.

Location and Viewable Impressions

- Third-party Source Data
- Industry or Government Data
- Electronic counts from cameras, sensors, beacons, or similar devices
- Manual Counts – Census
- Projected Manual Counts – Sample (must be very rigorous and comprehensive in coverage)
- Respondent Recall; Surveys/Interviews
- On-Site Surveys/Interviews/Observation

Ad Units

- Respondent Recall; Surveys/Interviews of Specific Ad Awareness
- Technology-Based Measurement Tools focused on Ad Activity
- Projected Manual Counts – Generally Executed at the Time of Consumption and Generally Sample-Based
- Viewability Technology Solutions

Dwell Time

- Respondent Recall; Surveys/Interviews
- Manual Counts – Census with Time Stamps
- Projected Manual Counts – Sample, Generally Executed at the Time of Consumption
- Technology-Based Measurement Tools with Time-Stamps including facial detection methods, GPS, mobile data

Reach

- Respondent Recall; Surveys/Interviews
- Projected Manual Counts – Sample Based
- Technology-based measurement

Frequency

- Almost Exclusively Respondent Recall Based, Due to Difficulty in De-duplicating Activity
- Technology-based measurement

Other General Topics, Not Covered Elsewhere:

Universe Definitions

A geographic universe or coverage definition stated on the basis of population amounts is required for OOH media subject to measurement. These may be customized (or limited) based on the specific attributes of the distributor and the associated locations. In some cases a customized universe can be stated though preferably a general population estimate be used (e.g., US Census estimates) for media comparability purposes.

The source used for such universe definitions must be referenced and should be from generally accepted independent Industry or governmental third-party sources. These figures are critical for the projection of estimates. This data shall be updated at regular periodic intervals and preferably be stated on a basis that corresponds to the audience targets and weighting variables being employed by the measurement organization.

In certain situations universe estimates relative to what is being measured are less relevant, and in instances where this is material disclosure is warranted so that users can understand the possible impact on certain measures (e.g., GRP's). A prime example is airports, where a large transient population passes through that is not represented in standard universe estimates for the locale. Similarly, transit hubs supporting long-distance commuters, and locales that draw significant tourism are also subject to this phenomenon. Virtually every media type is subject to the effects of travel and visitation; however, the condition and effects are exacerbated in certain OOH environments, thereby warranting strong disclosure with regard to the possible effects on measurement and reporting.

It is important that users of the data understand when these situations exist, and how the transient population is accounted for. In some instances, for example a National Brand, the inclusion of transient individuals in traffic and impression counts may be acceptable, whereas this may not hold true for local oriented brands. Measurement techniques may also be developed and operate in such a manner that obviates the need for accounting for transient individuals, since by design that group would be purposely excluded from measurement. In all cases the users of the data should be informed as to how the transient population is accounted for, including explanations of how any methods or adjustments applied influence reported metrics (e.g., GRPs, Reach, etc.).

In addition to the necessary disclosures, a measurement service may elect to adjust collected data as a means to normalize reported estimates, which can involve, as examples, removing person counts deemed attributable to transients or adjusting the universe estimate to include universe estimate counts for those areas traveled from. Data adjustments shall be fully described and shall be based on systematic and reasonable procedures supported by underlying empirical studies.

Demographic Parameters

Phase one reporting of Impressions metrics should at minimum delineate total persons, and Persons 18+ reporting. The below illustrates a standard list of demographic (and geographic) breaks commonly used in the industry for measurement and reporting that should be considered when reporting audience estimates. These are presented to allow for flexible reporting and are not required reporting variables.

Gender:
Male
Female

Age:
Persons 15-17
Persons 18-21
Persons 18-24
Persons 25-34
Persons 35-44
Persons 45-49
Persons 50-54
Persons 55-64
Persons 65+

Age-Gender
Female 15-17
Female 18-21
Female 18-24
Female 25-34
Female 35-44
Female 45-49
Female 50-54
Female 55-64
Female 65+
Male 15-17
Male 18-21
Male 18-24
Male 25-34
Male 35-44
Male 45-49
Male 50-54
Male 55-64
Male 65+

Household income range
0 - $24,999
$25,000- $39,999
$40,000- $59,999
$60,000- $74,999
$75,000- $99,999
$100,000+

Race Characteristics
- White
- Black
- Others

Ethnicity

- Hispanic
    - By Language Spoken

Geography
CBSA
County
DMA
National
Zip Code

These should be matched with data collection instruments, data adjustment procedures, weighting and reporting procedures to ensure that any distortion of demographic and geographic data reported to measurement users is minimized.

Additional demographic or geographic breaks are permitted for highly targeted OOH media, however the source of this information within data collection should be disclosed.

The ultimate goal in demographic measurement should be to ultimately provide breaks for subsequent campaign target analysis that are commonly available on currencies used for other media.

Location Determination

Establishing and maintaining valid and reliable location information is crucial to OOH measurement given the diverse nature of the media, the varying environments in which Displays are situated, and the mobility aspects both in terms of pedestrian traffic, and in certain situations the media itself.

Specific guidance and requirements for location determination when using electronic methods are contained in the MRC Location-Based Advertising Measurement Guidelines (March 2017) that establish a detailed set of methods and common practices for entities that measure and use location-based metrics. These Guidelines document good practices of measurement; improve practices and disclosures used by practitioners; and also provide education to users of location-based measurement data from all segments of the industry. OOH media measurers should seek to adhere to MRC's Location-Based Measurement Guidelines to the extent they are applicable.

Viewable Impressions

Viewable impressions have become the currency for digital Internet and mobile measurement – ensuring the Opportunity-to-See a digital advertisement, rather than just that the advertisement was digitally served. In the digital environment video ads are considered viewable when at least 50% of the ad's pixels are visible in the viewable space of the browser for 2 continuous seconds or more, which is independent of someone having seen or "looked at" the ad. For Display, the viewability requirement is at least 50% of pixels for 1 continuous second or more. Viewability pertains solely to the availability of content, thereby allowing for the possibility of exposure.

Viewable adjustment measures applied to OOH media are expected to conform to the existing requirements for digital video and display in that they represent an Opportunity-to-See, rather than confirmation that someone has seen the ad. Additional study may be warranted to determine whether the qualifying thresholds utilized for digital video and display (i.e., 50% of pixels for 2 seconds

and 50% of pixels for 1 second, respectively) should be adjusted for OOH media, though until such study occurs the then current viewability thresholds should be applied.

Analog OOH media is considered viewable when it is determined that the Content or Ads have been installed and properly maintained during the measurement period, absent rotation or other form of switching event that may render the material unviewable for a period of time. Any obstruction would negate the counting of viewable impressions.

Viewability ensures that content is rendered in a manner that allows individuals to be exposed to, or view the content and/or ads.

Audio Audibility Standards are in process of being developed, and once established we expect the same requirements would apply to audio OOH media until additional study suggests otherwise.

Use of ESOMAR Global Guidelines VAC Adjustments

An accepted technique for out-of-home posters (static non-video content) is the use of an estimator for the likelihood of an individual to look at a piece of content, referred to as a Visibility Adjusted Contact (VAC). This technique, though not explicitly stated in the ESOMAR Guidelines, should be applied to Video formats as well.

These Standards implicitly support the application of VAC since the conditions of Notice or Seen are necessary qualifiers to support the reporting of LTS Impressions.

If this type of estimator is used by a measurement organization, it should be customized to the environment and supported by periodic study and evaluation. The use of a VAC-type estimator should be disclosed and quantified by the measurement organization to measurement users.

Individuals or media that are In Motion during Dwell Time

If the Display and/or Display audience is in motion when the Display audience is in the Display Exposure Zone, this motion should be considered in the development of the reported metrics. Motion patterns, where relevant, shall be studied and accounted for as part of information gathering about audiences exposed to content and advertising.

4.2 Data Quality, Completeness and View Requirements

Transparency is a highly encouraged general principle; when in doubt, disclose a situation fully to measurement users. For organizations subject to MRC auditing, transparency is a requirement.

It is preferred, but not required, that measurement source-data be gathered and compiled by third-party sources, such as independent organizations specializing in measurement.

Where third-party sources are used for gathering pedestrian counts or vehicular traffic estimates, or other significant measurement source-data, the procedures used to gather this data should be known and the accuracy of these procedures shall be periodically assessed by the measurement organization reliant on the data. A measurement organization cannot delegate away its responsibility for the accuracy of underlying data.

Probability sampling is a requirement for projecting counts and audience data to populations and for computation of sampling error. Non-probability samples will be assumed to lead to non-generalizable results with the burden of proof otherwise being on the measurement organization. Sample frames shall be representative of the populations targeted for measurement. Significant omissions from the sampling frame shall be disclosed and quantified.

Seasonality and time-zone equalization are issues to be considered when accumulating and projecting measurement results, as well as variations that may occur by day of week and time of day.

Response rates shall be captured and disclosed, and specific research processes should be employed on a continuous basis to minimize non-response.

Organizations shall have sufficient internal controls over all aspects of measurement data collection, processing, data adjustment, weighting and reporting to minimize error and ensure adequate disclosure.

We encourage compliance with the MRC Minimum Standards for Media Rating Research (published by MRC, Last modified in 2011), available at www.mediaratingcouncil.org as well as the other relevant guidance referenced in this document, including:

- Digital Video Impressions Measurement
- Viewable Ad Impressions Measurement
- Mobile Viewable Ad Impressions Measurement
- Invalid Traffic and Filtration
- Location Based

We also encourage independent external auditing, such as that conducted by the MRC, for measurement organizations.

4.3 Inferences, Estimation, Ascription, Projection of Measurement Data

Inferences made about OOH data in estimation, ascription and projection processes and the size and impact of adjustments made, as part of data collection by the OOH media measurement organization, shall be fully described and shall be based on systematic and reasonable procedures supported by underlying empirical studies.

4.4 Data Editing and Adjustment

Data Editing and Adjustment procedures can be critical to processing audience measurement data. These procedures can be a part of best practices for ensuring complete and consistent measurement results over time. However, the specific data adjustment and editing parameters used shall be supported by empirical justification based on prior study.

The volume/extent of editing and adjustment to originally collected pedestrian counts or vehicular traffic and respondent data shall be disclosed, where this volume is material to the total (generally if that exceeds 5% of records). These disclosures should be granular by type and reported on the basis of weighted and reported characteristic.

If editing or adjustment rates are only periodically measured, this measurement should be frequent enough to be pertinent to reported data.

4.5 Frequency of Measurement

Many OOH measurers employ periodic, not continuous, measurement processes. The frequency of measurement, including the age of the basis for all measurements in each report, shall be prominently disclosed to measurement users.

Less frequent measurement, particularly as it ages, is less valuable to users of the measurement data. Measurement organizations are encouraged to measure as frequently as possible to minimize the potential for unknown changes in results, and measure all reported sources during each measurement interval.

5 Enhancing OOH Measurement Accuracy

5.1 Filtration for Non-Human Activity

If technical tools are used to establish pedestrian counts at the locations, venues, Displays, or within Display Exposure Zones, the measurement organization shall have controls to ensure this traffic is solely representative of human respondents.

Measurement organizations must perform a periodic risk assessment for invalid traffic and fraud detection, and maintain specifically directed internal controls for the filtration and removal of this activity. Specific guidance and requirements related to filtration for non-human traffic are specified in MRC's Invalid Traffic Detection and Filtration Standards Addendum (June 2020 – Update Final), and as periodically updated.

Additional consideration should be given to activity that occurs on non-OOH displays (e.g., information associated with supplemental materials not considered part of the display or internal test traffic) that may be included in reporting, as well as activity that occurs outside of defined operating hours.

5.2 Error Correction and Reissue Policies

A measurement organization shall have internal controls to catch and disclose material errors in its measurement production processes. Objective, prescribed policies should be promulgated by the measurement organization for determining the materiality of errors discovered. If material errors are noted, these should be disclosed to measurement users through written notices and reissued data.

An organization shall distinguish reissued data from original data through prominent labeling. Reissues should be tracked and available to users of the measurement data, including both sell-side and buy-side users.

Evidence supporting material errors discovered shall be retained for at least one year following the measurement period. Errors discovered that are not sufficiently material for disclosure should be retained for a similar period, to facilitate evaluation by auditors and other external parties where necessary.

5.3 Proof of Play

There must be strong evidence of proof-of-play (PoP) to support the reporting of Gross Impressions or Audience estimates associated with content or ad activity, with the latter activity being more challenging to accomplish. Multiple methods may be employed to establish PoP for analog inventory due to the varied nature of the formats and locations, and these methods should be agreed to by the buyer and seller prior to initiation of the ad campaign. In the digital OOH environment, the PoP function can be supported by existing technologies that log player activity, and the completeness and accuracy of these methods should be tested and validated prior to implementation and periodically monitored. PoP methods should be independently validated as subject to independent external audit in accordance with the guidance outlined in the Auditing Guidelines section of this document (Section 9).

Several OOH Associations have worked collaboratively to develop a framework and define a consistent set of PoP standards to support media sellers and buyers involved in the digital OOH industry. The goal is to have clear guidance and avoid errors when developing or operating PoP services.

6 Reporting Parameters

6.1 Data Access

It is strongly recommended that a measurement organization make its data accessible in a manner that facilitates user access, independent of its proprietary electronic delivery tools. In general data should be produced in a standardized electronic format that can be delivered to users for use in their internal systems or by a third-party processor of their choice, provided any necessary licensing requirements are satisfied. It is recommended that data be provided to external sources in a granular form rather than at a summary level that can restrict usage and limit custom analysis. The nature of the granular data shall be such that the identification of individual respondents is protected.

This information should be available no later than when the reported data is officially released, and ideally in advance to any licensed third-party processors to allow sufficient time to load the data and perform the necessary checks for data accuracy and completeness prior to the official data release date. Summary level information shall also be provided to licensed third-party processors for checking purposes.

6.2 General Parameters

General reporting parameters (dayparts, weekparts, time zones, etc.) provide for consistency and comparability. These should be based on the logical application of information about the usage patterns of the medium.

In order to provide for more standardization in OOH media Impressions and Audience measurement reporting, the following general reporting parameters are recommended. Note that these are only several of the possible reporting parameters that may be used. If parameters in addition to these are reported, similar rules should be defined and applied.

Measurers should seek to align each of the reporting parameters so that they are consistent, to the extent possible, with parameters reported for existing measured media to allow for a direct comparison to other media and facilitate multi-media analysis.

6.2.1 Time

Day — 00:00:00 to 23:59:59

Time Zone – Full disclosure of the time zone used to produce the measurement report is required. It is preferable, although not a current compliance requirement, for certified measurement organizations to have the ability to produce measurement reports in a consistent time zone so buyers can assess activity across measurement organizations. For US-based reports it is recommended that reports be available on the basis of the Eastern Time zone; for non-U.S.-based reports this is recommended to be GMT.

Week — Monday through Sunday

Week-parts — M-F, M-Sun, Sat, Sun, Sat-Sun

Month – Three reporting methods: (1) TV Broadcast month definition. In this definition, the Month begins on the Monday of the week containing the first full weekend of the month, (2) 4-week periods – (13 per year) consistent with media planning for other media, or (3) a calendar month. For financial reporting purposes, a month is defined as a calendar month.

Additional Recommendation: Dayparts – OOH media usage patterns need further analysis to determine the usefulness of establishing effective and logical standardized reporting dayparts. We encourage such analysis to determine the need for standardization of this measurement parameter, and to the extent possible be consistent with reporting for other media.

6.2.2 Location

Locations reported, if reported, in OOH media reports should be the actual physical locations of the location, venue and/or Display as applicable. If assumptions are made about physical locations of audience members or Displays, those shall be described. Accuracy of assumptions made shall be established by empirical study and disclosed to users of measurement data.

If electronic means are used to establish Location Traffic or Display Audience member counts (i.e., IP geo-location, mobile-device location services, meter placement, etc.), the accuracy of these functions shall be established and disclosed. These methods shall be validated to be appropriately accurate at the levels of granularity being employed.

6.2.3 Segregating Non-Like Ad Content or Activity

For reporting purposes, users shall have the ability to segregate measurement by the various types of ads or events included in the campaign. Additionally, counts should be reported separately for ads within the campaign of different sizes or functionalities, different brands, different brand sub-components, etc.

7 Display Classification

The OOH media industry should strive to maintain a uniform set of classification specifications of device types, location types, environmental factors, and other characteristics expected to exert some influence on audience metric components such as Opportunity-to-See, exposure, viewability, or audibility. The classification schema should be sufficiently granular to account for meaningful differences associated with each of the characteristics, though it need not demand precision to the point where the information becomes unwieldy and cannot be sufficiently maintained.

The specifications should be developed through collaboration with the OOH media providers in cooperation with all industry constituency and housed within an independent body that is assigned the responsibility to maintain the information, and administer a routine process for monitoring industry changes and instituting revisions when appropriate. Media buyers, including Advertisers and Agencies should also be actively involved to ensure classification information is structured to meet marketplace needs. OOH Media owners are encouraged to actively participate in this process since their information forms the foundation of the measurement process and the resulting data set.

The complete set of classification criteria and specifications should be assessed for continued relevance at least annually, with a more frequent review for characteristics subject to more rapid change due to evolving technologies, new entrants, or forms of delivery, and environmental factors. OOH media owners are responsible for ensuring the data are complete and accurate for their properties, and submitting changes commensurate to when they occur, at minimum on a weekly basis, noting the exact date of the change. The complete set of classification data should be subject to independent audit.

Measurement organizations should also be consulted as part of this process since many of the characteristics will be utilized in statistical modeling and visibility adjustment processes. New entrants are encouraged to participate at the early development stage to help ensure conformity to existing criteria and contribute toward defining possible new variable requirements.
The following list contains a set of characteristics for consideration and this information should not be viewed as exhaustive. These variables are intended to provide guidance to the entity responsible for establishing and maintaining the Display classification data-set, and that body should work with the industry to define the detailed specifics of each criteria.

- Media owner including contact information
- Description, including type and classifications (Billboard, Street Furniture, Transit/Fleet, Place-Based)
- Digital OOH Classification for Programmatic Solutions
- Precise geographic location (Latitude/Longitude) of the Display
- Distance from the road or travel way
- Venue Location and Display placements within the venue, where applicable
- Orientation details represented as an angle of detail
- Type of illumination plus on/off times
- Display Type (Analog, Digital Display or Video, etc.)
- Display Size (physical) with height, width and unit of measure
- Display size in pixels
- Facial detection or counting capability
- Return path functionality

- Video and Audio capability and quality (Resolution & decibel level)
- Known limitations or obstructions
- Description of the environment
- Stationary or mobile
- Ad Clutter (including digital and also static signage in the vicinity)
- Ad to Program display ratio (i.e., partial display ads or banners)
- Display elevation
- Free Space surrounding / Aisle / Wall mounted / In Store
- Other Functionality in the Display (Activation triggers, Map interaction / Wi-Fi Spot / Battery Charger)
- Pedestrian environment of area: Captive surroundings / Passing / Corridor / etc.
- Days and times of operation including:
    - Per timeframe/Weekday/Weekend/Season
    - Loop length (typical)
    - Ad Unit Length (typical)
    - The type of content & ads (Analog Display – static or rotating, Digital Static/Dynamic/Slight movement/Full Video)

As noted earlier in this document measurement should occur at the Display level so that information can be aggregated for ad campaign or network reporting purposes, and as such precise location data is foundational to OOH measurement. In some instances, OOH reporting is intended at a venue level. Precise venue maps to scale, including dimensions and exact Display positions/orientations, are considered valuable in addition to precise geographic location (Latitude/Longitude) of each venue and each Display within the venue in order to establish video and/or audio exposure zones for each Display. It is noted that technology exists for the detailed mapping of indoor spaces, like malls, that can be precisely related to traffic flow/mobility and visibility in each and every corridor. The use of such technologies is encouraged to enhance accuracy and precision of measurement and the final results.

"The map position must be transferred to the same co-ordinate baseline as that used for mobility modelling, if large errors are not to occur, especially when applying visibility adjustment." ESOMAR GGOoHAM V 1.0

The Display classification system should also contain detailed information on situations in which multiple Displays are co-located in close proximity to one another, including the number and characteristics of each, as well as the distance from one another so that this information can be accounted for when calculating Display Audience estimates for ad campaign and networks level reporting, as well as for de-duplication purposes.

Standards should be established to enable the electronic transfer of Display classification information, including routine updates, in a consistent manner in order to facilitate the flow of information and reduce the likelihood of human error.

8 Disclosure Guidance

OOH media measurement organizations should fully disclose their Location Traffic, Impressions and Display Measurement activity recording process to buyers and other users of the measurement data. An organization's methodology for accumulating OOH media advertising measurements shall be fully described to users of the data, including methods for calculating segment and Ad unit Impressions and Audience, where applicable. Specifically, the nature of counts and/or measurements, methods of sampling used (if applicable), data collection methods employed, data editing procedures or other types of data adjustment or projection, calculation explanations, reporting standards (if applicable), reliability of results (if applicable) and limitations of the data shall be included in the disclosure.
The following presents examples of the types of information that should be disclosed.

Nature of OOH Media Measurements

- Name/Type of Locations and Displays Included in the Measurement, including Display Classification Parameters
    - Signage construction
    - Orientation
    - Illumination properties of screen
- Name/Type of Venues and Displays included, where applicable
- Name of Measurement Report
- Measurement Period
- Type of Measurements Reported
    - Time Periods Included
    - Days Included
    - Universe Estimates and Coverage Estimates used for Projection
    - Basis for Measurement (Measurement Unit)
    - Location, Venue, or Geographic Areas
    - Significant Sub-Groupings of Data
        - Demographic categories
- Formats of Reported Data
- Special Promotions Impacting Measurements
- Auditing Applied and Directions to Access the Audit Report
- Sampling/Projections Used
    - Sampling Methods Used
    - Explanation of Projection Methods
- Display Exposure Constraints or Obstructions
- Audience Movement, Orientation and Travel Directionality

Data Collection Methods Employed

- Method of Data Collection
- Location Level Data
- Venue Level Data, where applicable
- Display Level Data
- Audience Qualifiers, Views Specifics, etc.
- Types of Data Collected
    - Surveys, Diary, Observations, Electronic Measurements, etc.
    - Frequency of Collection
- Contacts with Users (if applicable)
- Research on Accuracy of Basic Data

    - Latency Issues with Periodic Measurement, as applicable
- Rate of Response (if applicable)

Editing or Data Adjustment Procedures
- Checking Records for Completeness
- Consistency Checks
- Accuracy Checks
- Rules for Handling Inconsistencies
- Circumstances for Discarding Data
- Handling of Partial Data Records
    - Ascription Procedures

Computation of Reported Results
- Description of How Estimates are Calculated
    - Illustrations are desirable
- Weighting Techniques (if applicable)
- Verification or Quality Control Checks in Data Processing Operations
- Pre-Release Quality Controls
- Reprocessing or Error Correction Rules

Reporting Standards (if applicable)
- Requirements for Inclusion in Reports, Based on Minimum Activity Levels
- Demographic and Geographic Breaks Reported

Reliability of Results
- Sampling Error (if applicable)

Data retention rules
- Maintaining sufficient data or processes that allow for audit trail

Limitations on Data Use
- Non-sampling Error
- Errors or Unusual Conditions Noted in Reporting Period
- Limitations of Measurements

9 Auditing Guidelines

9.1 General

Third-party independent auditing is encouraged for all OOH media measurement used in the buying and selling process. This auditing is recommended to include counting methods, surveying and measurement methods and processes/controls as follows:

1. Counting Methods: Independent verification of activity for a defined period. Counting method procedures generally include a basic process review and risk analysis to understand the measurement methods, analytical review, transaction authentication, validation procedures and measurement recalculations.

2. Survey/Measurement Methods: Independent verification of activity to convert Location Traffic to Gross Impressions and Display Audience, including the establishment of the Display Exposure Zones. These procedures generally include process reviews, methods to ensure accurate representation from Location Traffic, qualifiers applied and testing of application of these qualifiers for inclusion in Gross Impressions and Display Audience counts, transaction

authentication, validation of weighting and projection procedures and measurement recalculations.

3. Processes/Controls: Examination of the internal controls surrounding all phases of the measurement process. Process auditing includes examination of the adequacy of applied counting and qualification techniques. Although audit reports can be issued as infrequently as once per year, some audit testing should extend to more than one period during the year to determine whether internal controls are maintained. Audit reports shall clearly state the periods covered by the underlying audit testing and the period covered by the resulting certification.

Third-party data providers, including independent Operators and media entities that supply information that is foundational to measurement should also be subject to independent audit or the measurement service should have sufficient controls in place to validate the data used or relied on for measurement purposes. These audits should be designed to verify the completeness and accuracy of the information, and the extent to which the information is representative, as well as examine controls surrounding the collection, maintenance, processing, and the reporting of the information.

Similarly, as noted in the Display Classification section of this document (Section 7), classification information, and the underlying sources contributing to the data set, should be subject to independent audit and these should be conducted at least annually, as recommended for U.S. certifications.

9.2 U.S. Certification Recommendation

All OOH media measurement products used in the buying and selling process, inclusive of the underlying data sources they depend on, are recommended to be certified as compliant with these Standards, at minimum annually. This recommendation is strongly supported by the 4As and other members of the buying community, for consideration of measurements as "currency."

In addition to MRC and its congressional supported certification process for the media industry, there are a number of other certifiers and types and levels of certification available to organizations involved in OOH media measurement.

Special Auditing Guidance for Advertising Agencies or Other Buying Organizations:

If buying organizations modify or otherwise manipulate measurements from certified OOH media audience measurement organizations upon receipt, auditing of these activities should be considered.

10 Who We Are

About the Media Rating Council (MRC)

The MRC is a non-profit Industry association established in 1964 comprised of leading television, radio, print and Internet companies, as well as advertisers, advertising agencies and trade associations whose goal is to ensure measurement services that are valid, reliable and effective. Measurement services desiring MRC Accreditation are required to disclose to their customers all methodological aspects of their service; comply with the MRC's *Minimum Standards For Media Rating Research*; and submit to MRC-designed audits to authenticate and illuminate their procedures. In addition, the MRC membership actively pursues research issues they consider priorities in an effort to improve the quality of research in the marketplace. Currently, more than 100 syndicated research products are audited by the MRC. For more information, visit www.mediaratingcouncil.org.

11 References

- CODACAN DOOH Audience Metrics Guidelines – September 2009
- DPAA Audience Metrics Guidelines - August 8, 2008
- ESOMAR Global Guidelines on Out-of-Home Audience Measurement Version 1.0 - May 2009
- OVAB Europe Standards DooH Audience Measurement –January 2013

12 Contact Us

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Appendix A

Section Summaries

The OOH Measurement Standards introduce foundational standards for measuring Out-of-Home (OOH) Media Audiences with the intention of establishing a common core of metrics for various OOH media and aim to align with other media forms. These standards target visual media, both digital and analog, and cater to the media industry, including those analyzing or monetizing OOH media metrics. The requirements to establish an audience metric will be documented through a second phase release of this document.

To recap, the major aspects of Sections 1 and 3-8, include, but are not limited to, the following:

Section 1 – Overview Summary

- The OOH Standards emphasize the unique challenges in measuring OOH audiences due to diverse locations, delivery methods, and environmental factors; measurement approaches should adapt accordingly.
- The Standards address measurement methods for various OOH media (e.g., static and periodically changing ads, analog or digital) essential for accurate measurement and reporting.
- Digital OOH content and ads are categorized as static linear, rotating linear, dynamic or interactive, and encompass static display, video or animated images that may or may not include sound.
- Key parameters for categorizing OOH content include rotation frequency, digital delivery, motion type, interactivity, audio inclusion, and whether the ads rotate on multiple units or share the display with content.
- Billboards, Street Furniture, Transit, and Place-Based categories are categorized as OOH media
- OOH media with video and static displays may have audio components; however, audio-only OOH media are not comprehensively covered in the current Standard (will be in the future).
- When OOH media includes audio, measurers must distinguish and disclose methods for measuring visual and auditory exposure due to the differing areas of reach, and provide empirical support for the viewability and audibility of the medium.
- For OOH media reporting, the required reported metric is “Measures associated with Video only” for video OOH and “Measures associated with the visual component” for display OOH.
- Audio-only OOH media should be "Exposure to Audio Only" and segregated or clearly delineated from Video or Display related metrics.
- Measurement techniques for OOH include assessing Display location/orientation, Venue Traffic, Viewable Impression estimates, and Likelihood-to-See Impression estimates
- Measurement and reporting are dependent on a complete Display classification database, including known locations, that is subject to independent verification and audit.
- OOH media measurement should use a common, syndicated approach for consistency across media or within specific categories like Transit, with custom methods used only for unique situations and clearly communicated to users to prevent data confusion.
- Privacy in data collection, processing, and transmission is critical and must be protected, adhering to regulations like GDPR, with organizations expected to monitor emerging privacy laws and maintain user anonymity where required, particularly for MRC accreditation seekers.

Section 3 – Out-of-Home metrics summary

- The hierarchy of OOH Measurement is Location Traffic, Gross Impressions (Rendered), Viewable Impressions (Opportunity-to-See) and Likelihood-to-See Impressions (LTS). Each metric in the hierarchy builds from the preceding metrics' qualifying criteria (see below table).

Metric Name:	Gross Impressions	Viewable Impressions (OTS)	Likelihood-to-See Impressions (LTS)	Audience *(OOH-Phase 2)*
Qualifying criteria	Ad Play (digital)	Ad Play (digital)	Ad Play (digital)	Ad Play (digital)
	Post (analog)	Post (analog)	Post (analog)	Post (analog)
	Functional Display	Functional Display	Functional Display	Functional Display
	Presence in the Display Exposure Zone	Presence in the Display Exposure Zone	Presence in the Display Exposure Zone	Presence in the Display Exposure Zone
		Viewability Condition Exists	Viewability Condition Exists	Viewability Condition Exists
			Evidence of Notice or Seen	Evidence of Notice or Seen
				Additional criteria to be determined in Phase 2

Location Traffic:

- Location Traffic is used to measure potential audience, including both pedestrian and vehicular, for Out-of-Home (OOH) media assets, but not required for all measurement approaches.
- Presence in the specific area of interest is essential for generating Impressions or Audience.
- Location Traffic data can be derived from direct counting methods or third-party sources, with a preference for passive collection; fluctuations across different days and times must be accounted for.
- Data used for Location Traffic, such as transit figures or transactional records, must be carefully vetted for duplication, and any adjustments should be empirically justified.
- Timing alignment between Location Traffic and Impression data is needed to ensure data accuracy; discrepancies and seasonal trends should be addressed.
- Quality control and internal audits are necessary for validating Location Traffic data, which should correspond with the operation times of the location.
- If using third-party data, measurement organizations must ascertain the accuracy of such data, with transparency required when sources cannot be independently verified.

Gross Impressions (Rendered):

- Presence within the Display Exposure Zone while a media display is operational is the key criterion for counting Gross Impressions, and obstruction would not necessarily negate counting.
- Gross Impressions reflect the highest potential audience estimate, exceeding other metrics like Likelihood-to-See (LTS) and opportunity to see (OTS) counts.
- Evidence of presence must be verifiable and can be obtained through direct methods such as observation or technology, with a preference for passive methods; variations by time and day must be considered.

- Impressions data should ideally match the timing of the audience measurement period to ensure accuracy, with considerations for seasonality and necessary adjustments for measurement period differences.
- Details of a Display Exposure Zone should be clearly documented and disclosed, with size descriptions varying by location environment, if applicable.
- Display operating times must be defined and factored into impression counts, with adequate internal controls for accurate recording and applicability to the counting process.

Viewable Impressions (OTS):

- Presence alone at the location does not guarantee a Viewable Impression; individuals must also be documented to be present at the Display in the Display Exposure Zone, while the Display is functional and a viewability condition exists. Obstruction would negate counting of a viewable impression.
- Counts occur only during the display's operating hours and when content can be seen, with adjustments for lighting and seasonal changes.

Extended calculated metrics summary

- Average Ad Impressions must clearly label and disclose the basis of measurement (e.g., Gross Impressions, OTS Impressions, LTS Impressions).
- Measurers must ensure that conditions for each Impression type are met and exclude non-advertising content from Ad Impression counts.
- Ad Impressions should be measured on the basis of LTS Impressions due to their value in advertising transactions.
- Method used when reporting Promotional activities and Public Service Announcements must be disclosed.
- For technically complex measurements, such as discrete creative Ad Units, strict controls and internal traffic controls are critical and must be detailed.
- Average Ad Segment Impressions should be based on LTS Impressions, with clear labeling and disclosure.
- Dwell Time must only account for periods when ad content is viewable for Ad Impressions reporting.
- Reach and Frequency should be reported on LTS Impressions and clearly disclose basis of measurement.
- Measurers must disclose methods for establishing unduplicated Reach counts, validate effectiveness periodically, and be subject to audit.
- Empirical data should support Reach and Frequency estimates rather than solely modeling processes.
- Reach and Frequency reported on a Viewable Impressions basis must be disclosed as such.
- Attribution techniques require rigorous testing and validation, and their efficacy must be disclosed.
- At least a portion of characteristics must be directly collected and proportion of attributed to actual characteristics disclosed.
- Organizations should aim for systems comparable with other media types to integrate OOH data with other media metrics, although these are encouraged but not required.

Section 4 – OOH Measurement Specifics Summary

- OOH media requires a mix of measurement techniques, which may include third-party data and direct observations.
- Measurement should account for limitations inherent in each method, whether technology-based or reliant on respondent recall.

- Viewable and location impressions should employ third-party data, manual counts, surveys, and technology such as sensors and beacons.
- Universe definitions for OOH measurement should be based on independent industry or government data and regularly updated for accuracy.
- Demographic reporting should minimally include total persons and adults over 18, with additional demographic and geographic breaks recommended.
- Valid location information is crucial, and electronic measurement should comply with MRC's Location-Based Measurement Guidelines.
- Viewability adjustments for OOH media should match digital standards unless further study suggests modifications.
- Visibility Adjusted Contact (VAC) estimators should be employed, disclosed, and customized to the environment for static content.
- Motion of displays and audiences should be accounted for in metrics development.
- Organizations should be transparent with data quality and source procedures should be periodically assessed for third-party gathered data.
- Sampling used for data projection should be probability-based and represent the targeted population with significant omissions disclosed.
- Inferences, estimations, and projections should be well explained, systematic, and empirically supported.
- Data editing and adjustment should be justified empirically, and significant volumes disclosed.
- The frequency of measurement should be as regular as possible and disclosed

Section 5 – Enhancing OOH Measurement Accuracy Summary

- Controls are required to ensure pedestrian counts are human-only.
- Periodic risk assessments for IVT and fraud with established filtration controls are required
- Internal controls should be established to identify and disclose significant measurement errors
- Defined policies for assessing error materiality, notifications/disclosures and reissuance of corrected data should be maintained.
- Reissued data should be clearly labeled or distinguishable from original data
- Evidence retention on material errors should be maintained for 12 months following measurement period.
- Strong evidence of proof-of-play (PoP) is necessary for reporting Gross Impressions or Audience estimates.
- Analog OOH requires agreement on PoP methods between buyers and sellers.
- Digital OOH can utilize technology for PoP logging, requiring testing, validation, and periodic monitoring.
- PoP practices should undergo independent audit as per the Auditing Guidelines.

Section 6 – Reporting parameters summary

- OOH measurement data should be provided in a standard format that is easily accessible for users and third parties, protecting respondent anonymity.
- Offers detailed data to enable comprehensive analysis, available concurrently with or ahead of official releases to ensure accuracy.
- Utilizes consistent reporting parameters (e.g., dayparts, weekparts, time zones) to harmonize with existing media measurements for comparability.
    - **Day**: 00:00:00 to 23:59:59
    - **Time Zone**: Disclosure required; Eastern Time (US) and GMT (international) preferred.

  - **Week**: Monday to Sunday.
  - **Week-parts**: Various combinations including weekdays and weekends.
  - **Month**: TV Broadcast month, 4-week periods, or calendar month.
  - **Dayparts**: Analysis needed for establishing standard dayparts in line with other media.
- Exact physical location of OOH displays required.
- Assumptions about audience locations must be backed by studies and fully disclosed.
- Electronic methods for counting must be validated for accuracy and disclosed.
- Data should be sortable by ad types and characteristics for targeted reporting.

Section 7 - Display Classification Summary

- The Out-of-Home (OOH) media industry should adopt a standardized set of classifications for device and location types, environmental factors, and other relevant characteristics that influence audience metrics (Opportunity-to-See, exposure, viewability, audibility).
- Classification criteria and specifications should be reviewed at least annually, with more frequent checks for rapidly changing characteristics.
- OOH media owners must keep their property data up-to-date, with weekly changes reported.
- All classification data should be independently verified for accuracy.
- A set of characteristics are listed (see page 38) for consideration and intended to provide guidance to the entity responsible for establishing and maintaining the Display classification data-set (list not exhaustive).
- Measurement should occur at the Display level to aggregate for ad campaign or network reporting.
- The use of detailed mapping technologies for accurate indoor space measurements is encouraged for enhancing measurement precision.
- Detailed information on multiple displays in proximity should be included to refine audience estimates and for de-duplication in reporting.

Section 8 - Disclosure Guidance Summary

- OOH media measurement organizations must transparently disclose their measurement processes, including location traffic, impressions, and display activity.
- The methodology used to gather OOH media advertising data should be thoroughly explained to data users, covering calculations for segment/ad unit impressions and audience metrics.
- Disclosures should include, but are not limited to the following:
  - Nature of OOH media measurements
  - Data collection methods employed
  - Editing or Data Adjustment procedures
  - Computations of Reported Results
  - Reporting Standards (if applicable)
  - Reliability of results
  - Data retention rules
  - Limitations on Data Use

Appendix B

Future State Phase 2
OOH Audience Measurement Considerations

MRC intends to produce OOH Audience based measurement standards that will extend beyond the counting of impressions (i.e., Gross, OTS, and LTS), and be applicable to measurement of content and advertising. The criteria as to what qualifies a measure as audience will be determined during the next phase (i.e., Phase 2) though we know at the outset an audience measure will need to satisfy a more stringent requirement than those applied for impressions measurement, and possibly include some form of evidence of consumption. The goal is to produce a set of standards comparable to how other media forms are measured, and notably digital given the overlap, placing OOH on an equal footing for cross-media comparisons. The working group instrumental in producing this Phase 1 document suggested including existing guidance developed for other media as a means to help educate and prepare the OOH industry as to the type of requirements that are required, plus identify the specific unique aspects for OOH that will need to be considered as part of completion of Phase 2.

Following are extracts from MRC's Digital Audience Based Measurement Standards, a complete copy of which is available at:

https://www.mediaratingcouncil.org/sites/default/files/News/General-Announcements/MRC%20Digital%20Audience-Based%20Measurement%20Standards%20Final%201.0.pdf

Many though not all of the listed requirements will be applicable to the eventual OOH audience measurement standard, and among those that are applicable certain revisions may be required to conform guidance considering the unique characteristics and environment of the OOH industry. Many requirements are also necessary to support impressions measurement, and are reflected in the content hereinbefore.

MRC Digital Audience Measurement Standard Excerpt

The *Digital Audience Based Measurement Standards* are intended to apply primarily to the measurement of digital advertising audiences, although the concepts it includes can be used to guide the measurement of digital content audiences, until such time that content-specific audience measurement guidelines have been established. This document serves as the framework for measuring and reporting audiences for digital ads that are viewable, filtered for invalid activity, attributed to an audience segment (or in target), duration weighted (for video where applicable and in cross-media comparisons) and comparable/able to be deduplicated across media types.

Standards include the following key tenets (with appropriate Section reference):

- Viewable Impressions are the minimum required qualifying measurement unit for digital audience-based measurement including digital and cross-media Reach, Frequency and GRP (Sections 2.1 and 2.2.1).
- For digital audience measurement (display and video), average viewable duration (based on unduplicated viewable duration) reporting is required. Further, the use of Duration Weighted Viewable Impressions is required for digital video audience measurement when used for input into cross-media video Frequency and GRP (Sections 2.1 and 4.2.3).

a. Audience measurements that do not include duration weighting are required to be reported in addition to required duration-weighted estimates in cross-media video comparisons or combinations.

b. Digital-only audience measurements not intended for cross-media combinations do not require duration weighting, but must include reporting of average viewable duration.

c. Duration weighting for digital-only video audience measurements is encouraged.

d. Duration weighting is not required for digital display ad audience measurement due to the absence of maximum creative length, although average viewable duration is required.

e. Special consideration for re-purposed TV content in digital media and whether differential treatment related to other duration value concepts will be included in further research performed as part of future efforts to create Cross-Media Audience-Based Measurement Standards.

f. This Standard requires Digital Audience measures that are based on Viewable Impressions, with filtration inclusive of General and Sophisticated Invalid Traffic as well as Cross-Media video measures that incorporate duration weighting. However, Digital Audience and Cross-Media measures that do not incorporate one or more of these required components may be reported with proper labeling, segregated reporting and clear disclaimer.

- For reporting purposes, measurements should be segregated by the various advertisement types or events included in the campaign (placement); counts should be reported separately for ads within the campaign of different sizes or functionalities (where known), different lengths, etc. (Sections 2.1.1 and 7.4).
- Measurement organizations are encouraged to separately report Viewable time that is also audible and to consider this in duration weighting of audience estimates; cross-media audience combinations require the same audible criteria (Section 2.2).
- The Universe used for calculating a GRP must be based on the total audience (or selected demographic/target) measured and must be considered when determining the coverage of measurements; for cross-media audience measurement, the minimum acceptable universe should be the de-duplicated total of all persons in the media universe for each medium (Sections 3.1 and 3.2).
- Records evidencing longitudinal consumption of content (duration) during the measured time period should be based on active user affirmation (Section 4.1.1).
- Duration measurement for digital ads should be based on at least second-level time granularity (although crediting can be on less granular levels such as minute level as long as cross-media combinations include the same crediting basis) (Section 4.2).
- Digital audience assignment should only be done at the unique device or, more preferably, unique user level (Sections 2.4 and 4.3).
- Panel sources should be congruent with the *MRC Minimum Standards for Media Rating Research* and are strongly encouraged to be part of an audited and accredited service; other industry measurement guidance as well as the MRC's guidelines for data integration are likely applicable (Section 4.3.4).
- The sources of assignment data, data assignment or integration methods and data sets involved in data integration processes should be disclosed to measurement service customers; a measurement service using assignment/integration methods must use at least some "truth" information (based on records of

sufficient quality obtained directly from people or actually observed data-relationships) as part of its periodic validation procedures (Sections 4.3.5 and 4.3.5.1).

- Robust data enrichment quality checking and monitoring is required; this includes validation procedures, identification and monitoring of data gaps in transactional data, empirical support and quality control over data editing, data aggregation controls and completeness checks (Sections 4.3.5.2 and 5).
- Digital audience measurement and reporting requires filtration inclusive of both General and Sophisticated Invalid Traffic (Section 6.2).
- Vendors and publishers must disclose to the end user through the provision of concise, clear privacy policy notices describing how their app products and/or web services use and share data and what the consumer's choices are. Measurement organizations are encouraged to consider additional industry and regulatory guidelines in this area; privacy regulations must also be considered (Section 6.3).

Guidance and requirements of other IAB, MRC, and, where applicable, MMA measurement guidelines are applicable where relevant. These include the *MRC Viewable Impression Measurement Guidelines* (for both desktop and mobile viewable impression measurement), the *IAB Audience Reach Measurement Guidelines*, the *IAB/MMA/MRC Mobile Web* and *Mobile In-Application Measurement Guidelines*, among others.

Specific Future Considerations for Unique Aspects of OOH

1. Consider the one-to-many aspects of exposure to OOH advertising assets. This difference is significant from the traditional structure of other forms of digital media which are more likely to be one-to-one or one-to-few exposures.
2. Consider existing audience measurement processes already accepted by the OOH marketplace such as VAC or "Eyes On" processes for key codifiable requirements. Seek out and study internationally accepted practices as part of this consideration.
3. Consider the new environments of digital data overlays or other forms of attribution and how these will supplement, or with appropriate ties to exposure and consumption frameworks could possibly qualify as audiences.
4. Consider existing or new techniques/technologies that are available to help establish strong likelihood to see metrics that can qualify as audience directly.
5. Consider the multitude of OOH forms and varying delivery methods, some of which may necessitate special handling from an audience measurement perspective.